

A REVIEW OF DELONG'S MONOGRAPH OF THE GENUS DELTOCEPHALUS*

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DeLong's monographic study of the North American species of *Deltocephalus* is off the press. It is indeed an achievement that Dr. DeLong can well be proud of. Although I should not attempt to criticise or pass on this work, I cannot refrain from giving a review of it in a general way. The high standard of DeLong's previous work in Cicadellid studies is enough to assure us that this volume of 129 pages with 30 plates, printed by the Ohio State University, in Vol. II, No. 13, January 15, 1926, the third contribution in Zoology and Entomology of this series, is a piece of work of the highest type and character. It will be exceedingly valuable and absolutely indispensable to workers in this Cicadellid genus. First of all, as a guidance in determination of species, then for future work in this group be it whatever character it may, morphologic, taxonomic, systematic, biologic, faunistic, ecologic, economic. It is a great stride forward in the progress of Cicadellid knowledge.

After giving due credit to all those who assisted in this accomplishment, DeLong gives a hint at the worthlessness of poorly mounted, broken, and badly preserved specimens, indeed a good hint which we all may take to heart. The illustrations accompanying this paper consist of nineteen plates of excellent line-cuts, drawn with the aid of an ocular micrometer which insures accurateness. They are executed neatly and are what we may call perfect in every respect. The remaining eleven plates are microphotographic reproductions exceedingly well produced. They show careful and clever photo-retouching which is so often neglected in a publication of this kind, and which is so necessary in microphotography.

DeLong has omitted the bibliography that sometimes accompanies descriptions of species in a monograph of this kind.

* Read at April 6, 1926, meeting of the New York Entomological Society.

This eliminates an item which takes considerable space in print, time and preparation and which is generally a repetition throughout. Of course, it must be admitted that it is handy to have the list of publications compiled for each species separately, at least such references as have appeared in print since Van Duzee's catalogue, 1918, but then to compensate for this, DeLong has given a complete bibliography at the end of his volume.

The introduction is continued with a short résumé of the genus explaining important and unimportant structural characters, showing relationship to other genera in the family. He devotes some time to showing the probable phylogeny of the genus, clearly illustrated with a figure of the family tree showing *Scaphoideus*, *Platymetopius*, *Deltocephalus*, *Aconura*, *Lonatura* and *Thamnotettix*, all apparently branching off together from one stem with *Euscelis* springing from the *Thamnotettix* branch and showing the *Deltocephalus* branch dividing into subgenera. (Two of the subgenera are, however, not accounted for.)

He gives quite a clear view of the effect of evolution in this animal group, explaining in other groups that where certain intermediate forms have disappeared or become extinct, it is not so difficult to form well defined descriptions of a group or genera, but *Deltocephalus* does not belong to this category and consequently it is sometimes very difficult to determine whether certain species should be placed here or in other closely allied genera. To quote him exactly, he says, "It is useless and absurd to look for hard and fast lines in all cases to separate animals into groups as man has tried to classify them."

In concluding his introduction, he laments the fact that unfortunately a species has been made type of the genus which is really not typical of it. He shows here the effect of man-made laws and rules. This species is not type by virtue, but by rule, because it happened to be first on the list of described species assigned to this genus. The second species would have conformed more closely with the description of the genus, but according to the rules and regulations cannot bear the title to which it is more fit. However, this is not of so much consequence as one may imagine, for as DeLong explains (quoting him again)

“The original characters given mean nothing as the group now stands.”

One thing that DeLong ought to be blessed for is that he has found a way to subdivide this, as it now stands, tremendous genus into comparatively small groups or subgenera; that he has not attempted to give a key for the whole ninety odd species. I am speaking now from the standpoint of one who has ambition enough to try to identify his own collection and perhaps specimens collected by his friends, and to whom the time is exceedingly limited, and the compensation for his labors is only the satisfaction obtained by the results of his studies.

After this introduction he devotes the first twenty pages to external morphologic character study, using Uhler's *Deltocephalus configuratus* as the illustration for the genus.

Fortunately Dr. DeLong has been able to separate the various species without necessarily having to depend on internal structures or characters which can only be seen after dissection. He found the male genital character very useful in this, in fact he mentions it as being “very important” and strengthens this contention by asserting “some species can only be, or can more easily be, separated by the male genital character.” It appears that he has found his strongest separating characters here, for in his concluding paragraph of the chapter on this subject he says, “In the genus under discussion, then, the male characters, both external and internal,* are important in classification and they are far better for specific determination than any other characters with the possible exception of the female characters which are used in some cases.”

The next section is devoted to the systematic arrangement. There is a key which separates the genus into seven subgenera. Each subgenera is in its proper place briefly described. DeLong describes fully and systematically the species and illustrates each by figures of the dorsal head, male and female genitalia, many of them by elytra and wing venation, and in addition, a photo-

* The internal genital characters, DeLong explains, are really not internal, but are the structures enclosed by the projecting dorsal pygofer and the ventral genital plates, which form the genital chamber.

graphic halftone of each of the ninety-six species listed and discussed. He then continues discussing various other phases of the subject, such as, biology, ecology, fauna, economy, finally winding up with a bibliography and index. Altogether it is a commendable piece of work which I am sure will be much appreciated and extensively used by all who have a working interest in the Cicadellid family.